

Preface

The CRISPR/Cas (clustered regularly interspaced short palindromic repeats/CRISPR associated nucleases) system was originally discovered to be an acquired immune response mechanism used by archaea and bacteria. It has since been adopted for use as a tool in the genetic engineering of higher organisms. Designing an appropriate gRNA is an important element of genome editing with the CRISPR/Cas system. A gRNA can and at times does have unintended interactions ("off-targets") with other locations of the genome of interest. For a given candidate gRNA, these tools report its list of potential off-targets in the genome thereby allowing the designer to evaluate its suitability prior to embarking on any experiments.¹

In the present book, ten typical literatures about CRISPR-Cas published on international authoritative journals were selected to introduce the worldwide newest progress, which contains reviews or original researches on CRISPR-Cas. We hope this book can demonstrate advances in CRISPR-Cas as well as give references to the researchers, students and other related people.

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¹ https://en.wikipedia.org/wiki/CRISPR/Cas_tools